



# PUBLIC NOTICE

## APPLICATION FOR PERMIT

*LOS ANGELES DISTRICT*

**Public Notice/Application No.:** SPL-2008-00508-RRS

**Comment Period:** 12/19/2008 through 1/16/2009

**Project Manager:** Robert Smith; (760) 602 4831; Robert.R.Smith@usace.army.mil

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### **Applicant**

Leslea Meyerhoff  
City of Solana Beach  
635 South Highway 101  
Solana Beach, California 92075

### **Contact**

Brian Leslie  
Moffat and Nichol  
1660 Hotel Circle North, Suite 200  
San Diego, California 92108  
(619) 220 6050

### **Location**

Within/near the City of Solana Beach at Fletcher Cove Beach, CA (at: 33.0339896351866, - 116.734765595649).

### **Activity**

The Project consists of placing a max of 150,000 cubic yards per year of sand on Fletcher Cove Beach and to set up an opportunistic beach nourishment program for Fletcher Cove using opportunistic beach nourishment sources. Two placement options are proposed at this site, beach berm (140 ft wide by 1800 ft in length) above and below Mean High Tide Line (MHTL) (see attached drawings). For more information see page 3 of this notice.

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Interested parties are hereby notified that an application has been received for a Department of the Army permit for the activity described herein and shown on the attached drawing(s). Interested parties are invited to provide their views on the proposed work, which will become a part of the record and will be considered in the decision. This permit will be issued or denied under . Comments should be mailed to:

LOS ANGELES DISTRICT, CORPS OF ENGINEERS  
SAN DIEGO FIELD OFFICE  
6010 HIDDEN VALLEY RD, SUITE 105  
CARLSBAD, CA 92011

Alternatively, comments can be sent electronically to: Robert.R.Smith@usace.army.mil

## **Evaluation Factors**

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof. Factors that will be considered include conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people. In addition, if the proposal would discharge dredged or fill material, the evaluation of the activity will include application of the EPA Guidelines (40 CFR 230) as required by Section 404 (b)(1) of the Clean Water Act.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

## **Preliminary Review of Selected Factors**

**EIS Determination**- A preliminary determination has been made that an environmental impact statement is not required for the proposed work.

**Water Quality**- The applicant is required to obtain water quality certification, under Section 401 of the Clean Water Act, from the California Regional Water Quality Control Board. Section 401 requires that any applicant for an individual Section 404 permit provide proof of water quality certification to the Corps of Engineers prior to permit issuance. For any proposed activity on Tribal land that is subject to Section 404 jurisdiction, the applicant will be required to obtain water quality certification from the U.S. Environmental Protection Agency.

**Coastal Zone Management**- The applicant has certified that the proposed activity complies with and will be conducted in a manner that is consistent with the approved State Coastal Zone Management Program. The District Engineer hereby requests the California Coastal Commission's concurrence or nonconcurrence. For those projects in or affecting the coastal zone, the Federal Coastal Zone Management Act requires that prior to issuing the Corps authorization for the project, the applicant must obtain concurrence from the California Coastal Commission that the project is consistent with the State's Coastal Zone Management Plan. This project is located inside the coastal zone and preliminary review indicates that it will affect coastal zone resources. A final determination of whether this project affects coastal zone resources will be made by the Corps, in consultation with the California Coastal Commission, after review of the comments received on this Public Notice.

**Cultural Resources**- The latest version of the National Register of Historic Places has been consulted and this site is not listed. This review constitutes the extent of cultural resources investigations by the District Engineer, and he is otherwise unaware of the presence of such

resources. Since this project is located in the same location as the previous SANDAG project the Corps has previously completed its duties under Section 106 of the National Historic Preservation Act and did not find any cultural sites that were to be impacted. Other opportunistic projects may require additional cultural resource surveys if they require Corps permits.

**Endangered Species-** Preliminary determinations indicate that the proposed activity may affect federally-listed endangered or threatened species, or their critical habitat. Therefore, formal consultation under Section 7 of the Endangered Species Act does appear to be required at this time for the western snowy plover, the California least tern, and the California brown pelican. The Corps shall be requesting concurrence from the U.S. Fish and Wildlife Service that the project is not likely to adversely affect these species given minimization measures being proposed for work during the breeding season.

**Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) – Essential Fish Habitat (EFH)-** The Corps will consult with the National Marine Fisheries (NMFS) under an informal EFH assessment to determine whether the proposed project may cause adverse impacts to EFH resources and weigh any short-term impacts against long-term benefits of the proposed activity. The applicant's consultant, Jeff Crooks, is coordinating with NMFS regarding impacts to coastal pelagic and Pacific groundfish species. The issuance of this public notice hereby initiates informal consultation with NMFS under MSFCMA.

**Public Hearing-** Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearing shall state with particularity the reasons for holding a public hearing.

### **Proposed Activity for Which a Permit is Required**

Beach nourishment provides erosion control, recreational benefits, and habitat enhancement. The purpose of the project is to capitalize on opportunities to obtain beach-quality sand from construction, development, or dredging projects in the region when it becomes available. This efficiency makes opportunistic material a viable sand source. The project would be implemented at Fletcher Cove beach, in Solana Beach (Figure 1). The site would be monitored over time so that the program may be modified, with agency consent, to maintain minimal environmental impacts (maximum environmental sensitivity) while maximizing nourishment of the littoral zone. The proposed project is to place up to 150,000 cubic yards (cy) on the City beach fill site, Fletcher Beach, as shown in the attached drawings with suitable sandy material to restore the beach and counteract beach erosion. The proposed beach berm (140 ft x 1,800 ft length x 6 ft high) shall be placed above and below high tide line and shall impact 5.8 acres of waters of the U.S. The placement program is the same site that was utilized for the City of Solana Beach as part of the SANDAG Regional Beach Sand Project (RBSP), where 146,000 cy was placed.

**Basic Project Purpose-** The basic project purpose comprises the fundamental, essential, or irreducible purpose of the proposed project, and is used by the Corps to determine whether the applicant's project is water dependent. The basic project purpose for the proposed project is beach nourishment which is water dependent.

**Overall Project Purpose-** The overall project purpose serves as the basis for the Corps' 404(b)(1) alternatives analysis and is determined by further defining the basic project purpose in a manner that

more specifically describes the applicant's goals for the project, and which allows a reasonable range of alternatives to be analyzed. The overall project purpose for the proposed project is to restore the Fletcher Cove beach with suitable material, in the City of Solana Beach, CA.

Due to the onsite water dependent need to restore the existing Fletcher Cove beach profile and prevent beach erosion the Corps did not require the applicant to examine offsite alternatives for beach nourishment per the Section 404(b)(1) guidelines and Corps regulations. Onsite restoration alternatives are being examined for both placement location and methods, alternative fill designs, and other more less environmentally damaging onsite alternatives per the Section 404(b)(1) guidelines. The Corps hereby requests comments regarding other less damaging onsite alternatives and placement methods and locations.

### **Additional Project Information**

The San Diego Association of Governments (SANDAG) currently supports the California Department of Boating and Waterways and the California Sediment Management Workgroup (CSMW) in development of the California Coastal Sediment Management Master Plan (Sediment Master Plan). One of the goals of the Sediment Master Plan and related studies is to develop a process that helps to manage sand on a regional or littoral cell basis. The intent of this program is to establish a process whereby opportunistic material with both optimum and less-than-optimum sand can be evaluated for compatibility and placed on a predetermined beach receiver site under a 5-year program as part of sediment management. Appropriate environmental clearance and permits would be prepared in advance so that when materials become available, there is minimal delay in placement. Similar programs have been, and are being established elsewhere in California. Jurisdictions implementing opportunistic programs include the cities of San Clemente, Oceanside, and Carlsbad. A joint opportunistic beach fill program effort also occurred along the south-central coast (Santa Barbara and Ventura counties).

A Final Mitigated Negative Declaration (MND) for the San Clemente Beach Replenishment Program was approved by the City of San Clemente in December 2002, an MND was approved by the Beach Erosion Authority for Clean Oceans and Nourishment (BEACON) joint powers agency for the Santa Barbara/Ventura county project in 2001. The City of Oceanside approved the Final MND for the San Compatibility and Opportunistic Use Program (SCOUP) in December 2008. A joint Environmental Assessment/MND for the Carlsbad Opportunistic Program was issued for public review in January 2006 and approved by the Planning Commission in May 2006. The Corps has issued a long term permit for the Carlsbad Opportunistic program.

The proposed Fletcher Cove opportunistic beach receiver site has the same or similar sand placement boundaries as the site utilized in the RBSP. This proposed project is also consistent with the SCOUP Plan. The following discussion provides details about the proposed opportunistic sand placement site.

### **Receiver Site**

The City of Solana Beach is located approximately 22.5 miles north of downtown San Diego along the Pacific Coast. As shown in Figure 2, the footprint would be within the City boundaries with an emphasis on the area south of Fletcher Cove. The receiver site is located at the toe of bluffs lines with oceanfront homes. There are no structures located on the beach aside from the concrete access ramp, lifeguard towers, and a few staircases for public and private beach access from the top of the bluffs.

The staging areas would be located in the Distillery parking lot across from Fletcher Cove and potentially, but less likely, the Fletcher Cover parking lot.

The proposed haul route would travel through densely developed areas of Solana Beach. Residential and business development occurs along I-5, Coast Highway 101, and the segment of Lomas Santa Fe Drive towards Fletcher Cove. In addition, there are a number of schools located along Lomas Santa Fe Drive or off of side streets. Access along Via de la Valle would be bound by businesses and the Del Mar Racetrack to the south and a mixture of businesses and residences to the north.

## **Project Characteristics**

The following section provides project details for the Fletcher Cove receiver site regarding (1) sand quantities and qualities, (2) beach fill design, and (3) haul routes, stockpile locations (if applicable) and operations. This section is followed by a description of the monitoring program commitments to be implemented during the 5-year period covered by this program. During this time period, monitoring results would be used to further refine and optimize the program as appropriate.

### **(1) Sand Quantities and Qualities**

Evaluating opportunistic sources to determine if they are appropriate for beach nourishment is a process based upon sediment characterization and comparison protocols. Sand material is anticipated to be from local contributions, that is, using surplus sand from upland construction, development, or dredging projects and placing it at specified beach locations to supplement ongoing beach nourishment activities in the region. Typical sources could be relatively small construction projects which may produce 2,000 to 4,000 cubic yards (cy) of sand to larger projects producing 50,000 cy or more of sand. The City and the Corps/EPA would require sampling of the material and would analyze it prior to placing it on the beach. Chemical and grain size testing would be required of all sources. Any sample not meeting these predetermined standards or the Inland Testing Manual (ITM) criteria would be rejected. Criteria for determining suitable beach sand include that the material:

- Cannot be suspected of containing hazardous chemicals based on Corps/EPA ITM Tier I or II assessment;
- Must be free of trash and debris based on visual inspection;
- Must reasonably match the color of natural beach sand after exposure to the marine environment;
- Must be less than 10 percent manufactured sand;
- Must be a minimum of 75 percent sand, optimally 80 percent sand or greater and with a percent sand content within 10 percent of the grain size envelope of the beach profile; and
- Must not form a hardpan after placement.

The rate of sand placement on the beach is also proposed to replicate nature as closely as possible. Natural sediment delivery to the coast occurs during the wet season (fall and winter); therefore, the majority of the beach fill volume is proposed to occur in the fall and winter seasons - September through May, or Labor Day to Memorial Day. This time period is also referred to as “low beach use season” because it has less human usage compared to summer months. Coastal watersheds naturally yield sediment from rain runoff in the wet season and the coastal zone is acclimated to this seasonal turbidity pattern.

Placement of sand material would be limited at the receiver site during the summer months (June through August, or Memorial Day through Labor Day) also referred to as the “high beach use

season". This season between Memorial Day and Labor Day has the highest beach usage for recreation but is also the most active construction season. Restricting all sand placements to occur only outside of the high beach use season could result in substantial missed opportunities. All of the less-than-optimum sand would have to be placed in the fall/winter during the low beach season due to the anticipated turbidity plume to be generated.

In addition, there are particular allowances and seasonal restrictions for the beach fill site during the spring season for intertidal species and foraging birds. Table 1 below summarizes all the allowances and restrictions throughout the year.

**Table 1**  
**Summary of Opportunistic Beach Nourishment Placement Allowances and Seasonal Restrictions**

Design Characteristics	Fletcher Cove Receiver Site
<b>Method of Placement Allowed</b>	
<b>Receiver Site Length (approximate)</b>	1,800 ft.
<b>Beach Berm</b>	Yes
<b>Surf Zone</b>	Yes
<b>Maximum Quantities Allowed Given % Fines</b>	
<b>Maximum Annual Volume</b>	150,000 cy
<b>0 – 10%</b>	150,000 cy
<b>11 – 25% Surfzone placement only</b>	Up to 25,000 cy
<b>Timing and Duration for Placement</b>	
<b>Monday – Friday, no holidays or weekends</b>	Between 9am – 2pm; Potential night time construction to 7pm – 5am
<b>Seasonal Restrictions for Placement</b>	
<b>Sept 15<sup>th</sup> – Feb 28<sup>th</sup></b>	< 10% fines = Unrestricted
	11 – 25 %fines = up to 25,000 cy/project
<b>Mar 1<sup>st</sup> – May 31<sup>st</sup></b>	Grunion monitoring may be required if habitat suitable for spawning; would allow up to 25,000 cy/month (maximum placement of 14 days/month) with a 10 % fines maximum at a minimum distance of 150 ft. between placements.
<b>Jun 1<sup>st</sup> – Sept 14<sup>th</sup></b>	<u>No</u> placement to avoid high beach use season unless pure sand (max. = 5,000 cy).

The project consists of placing up to a maximum total of 150,000 cy/yr of sand at the Fletcher Cove site in Solana Beach for material 10 percent fines or less. This amount may also include a maximum total of 25,000 cy/event sand material for 11 – 25 percent fines for nine months between September 15<sup>th</sup> and May 31<sup>st</sup>. In the unlikely event that more than one project is occurring at the same time, or if multiple haul trucks from one project are contemplated to be simultaneously used, the City may restrict the hours from 9:00 a.m. to 2:00 p.m. In addition, the smaller the volume of opportunistic sand to be hauled and placed at the site would create more flexibility to implement work outside the construction hours from 9:00 a.m. to 2:00 p.m. There may be potential to utilize nighttime construction between the hours of 7:00 p.m. and 5:00 a.m. The RBSP footprint in Solana Beach included Fletcher Cove and extended south approximately 1,800 feet. The typically smaller opportunistic events could be placed anywhere within this footprint during the season from September 15<sup>th</sup> to February 28<sup>th</sup>. The largest project currently identified in the City of Solana Beach which may contribute opportunistic sand material would be the planned underground parking garage at the Solana Beach Amtrak Station. This could contribute as much as 40,000 to 65,000 cubic yards (cy) and is to be constructed in two phases, with the first in 2008 and the second in 2009. Other, more typical projects would be underground parking for single family residences or multi-family complexes. These projects could typically yield approximately 2,000 cy or less.

Placement during the period of March 1<sup>st</sup> to May 31<sup>st</sup> is restricted to minimize impacts to invertebrate recruitment and grunion spawning. Specifically, up to 25,000 cy (with  $\leq 10\%$  fines) may be placed each month within this time period. Placement can only occur over periods of two weeks maximum per month. Placement can also only occur over discreet areas of the beach rather than over the entire beach area. A different placement site would be used each event and have a minimum spacing of 150 feet between placement sites, and located such that subsequent placements would not require vehicle disturbance of previously used sites.

Placement during the period of June 1<sup>st</sup> to September 14<sup>th</sup> is also restricted to minimize impacts to invertebrates, grunion, and foraging birds as well as the high beach use season, unless it is only pure sand.

## **(2) Beach Fill Design**

The placement site is restricted for placement between March 1 and May 31 for impacts to invertebrates and grunion. Placement must initially be placed farthest away from the access point. Subsequent placements must be spaced 150 feet apart, and placed farthest from the accessway first, then placed progressively closer to the accessway. Avoidance of repetitive placement in the same location would minimize interference with seasonal recruitment of beach invertebrate populations and would avoid direct impacts to invertebrates after they recruit to placement locations.

There are two possible beach fill design options including: (1) placement as a beach berm; and (2) placement directly into the surf zone. The berm option would only be used when there is beach quality sand that would visually blend in with the natural beach sand and would not form a hardpan. The project footprint for the City of Solana Beach is shown in Figure 2 and sand placement is proposed within the former RBSP footprint south of Fletcher Cove.

The cross-section views for these two options are illustrated in Figure 3. The beach berm placement is proposed to be within a surface layer with a finished surface elevation of +9 feet Mean Lower Low

Water (MLLW) and create 100-foot berm. This would occur approximately 50 to 250 feet offshore and generally slope towards the ocean at approximately 10:1.

The maximum dimensions for surf zone placement would be a 3- to 4-foot-high mound placed near the +2 foot MLLW topographic contour or lower, depending on conditions at the time of placement. It would likely extend along the length of the project site approximately 200 to 275 feet offshore.

### Beach Berm

Beach fill may be placed as a layer over the existing beach as a berm. The berm would be a level surface extending a certain distance from the back of the beach towards the ocean, then sloping gradually into the water. The elevation, width, length, and slope of the berm would vary for each sand placement opportunity, depending upon the quantity of material to be placed and its qualities, as well as the condition of the beach at the time of material placement. This option is ideal for good quality material with good color and low fill content.

### Surf Zone Placement

Beach fill may also be placed below the MHTL directly into the surf zone if the material is darker colored than the existing beach sand. Sand would be delivered to the beach and carried by wheeled loaders to the water's edge, then pushed as far seaward as possible by bulldozers. At low tide, the material would be pushed as far seaward as possible and left in a long, linear dike parallel to the coast so that it would be reworked by waves during the following rising tide. Therefore, the sand would have to be placed in increments if the quantity to be placed exceeded the rate of daily reworking by waves. The darker-colored clays would be winnowed out of the material by waves and currents and carried offshore and sand would be left behind. Surf zone placement would likely be the design used most often for sand placement of opportunistic material given that it may be darker in color and have high fines content. Dimensions may vary depending on conditions at the time of construction, including time of year, quantity, and specific beach fill design.

## **(3) Haul Routes, Stockpiling, and Operations**

The following discussion includes descriptions of the haul routes and operation times. Sand would be delivered by truck from areas throughout the City and it is assumed that the material would be generated locally by construction projects. Rather than sand being trucked to upland disposal sites, it would be trucked immediately to the receiver site. This method would be the most likely method utilized for the receiver site. During any placement of beach sand, the City must coordinate the proposed haul routes with other projects that may impact identified haul routes.

## **Monitoring Program**

Monitoring involves sediment sampling, beach profiles, surfing conditions, turbidity, and sensitive biological resources. Monitoring elements would be dictated by project specific features such as schedule and/or placement method. The types of monitoring relative to the project phase are



summarized in Table 4 and the details are discussed in the Draft MND (EDAW 2008). These monitoring requirements are based upon the SCOUP Plan (M&N 2006) and monitoring implemented during the RBSP (AMEC 2002, 2005).

**Table 4**  
**Overview of Monitoring Program**

<b>Design Characteristics</b>	<b>Monitoring Description</b>
<b>Pre-Construction Baseline Monitoring</b>	
<b>Beach Profiles</b>	Between 1 year and 30 days prior project
<b>Surf Conditions</b>	½ month prior, 3 times per week over 14 days
<b>Turbidity</b>	n/a
<b>Grunion</b>	If habitat is suitable and project is scheduled between March 1 <sup>st</sup> and September 15 <sup>th</sup> , then 2 to 3 weeks prior to construction before and/or during predicted grunion run closest to project initiation.
<b>Western snowy plover</b>	n/a
<b>CA least tern</b>	n/a
<b>Nearshore Sensitive Resources</b>	Up to 30 days prior to project – Pismo clams (divers to determine the presence/absence and if present, then boundaries of receiver site would be adjusted)
<b>Sediment Gradation</b>	Yes, to establish a baseline
<b>Construction Monitoring</b>	
<b>Beach Profiles</b>	n/a
<b>Surf Conditions</b>	n/a
<b>Turbidity</b>	Daily during construction from a high vantage point on land.
<b>Grunion</b>	If construction is scheduled between March 1 <sup>st</sup> and September 15 <sup>th</sup> , then every 2 weeks during spawning season. Monitoring is dictated by tides and lunar cycle.
<b>Western snowy plover</b>	n/a
<b>CA least tern</b>	n/a
<b>Nearshore Sensitive Resources</b>	n/a
<b>Sediment Gradation</b>	n/a (due to decreased volume with increase in % fines)
<b>Post-Construction Monitoring</b>	
<b>Beach Profiles</b>	Immediately after completion
<b>Surf Conditions</b>	1 month after, 3 times per week over 14 days
<b>Turbidity</b>	n/a
<b>Grunion</b>	n/a
<b>Western snowy plover</b>	n/a
<b>CA least tern</b>	n/a
<b>Nearshore Sensitive Resources</b>	n/a
<b>Sediment Gradation</b>	n/a

<b>Design Characteristics</b>	<b>Monitoring Description</b>
<b>Post-Project Monitoring</b>	
<b>Beach Profiles</b>	Over 1 year following construction with surveys at 6 months after and 1 year after
<b>Surf Conditions</b>	n/a
<b>Turbidity</b>	n/a
<b>Grunion</b>	n/a
<b>Western snowy plover</b>	n/a
<b>CA least tern</b>	n/a
<b>Nearshore Sensitive Resources</b>	n/a
<b>Sediment Gradation</b>	2 transects in wave wash zone during low tide approximately 0.5 mile apart between mean low and high tide during post-project and during Year 3 with pre-construction baseline established for all sites.

Source: SCoup Plan, 2006; SAIC, April and September 2006; Moffat & Nichol and SAIC, December 2006.

### *Surfing Conditions*

Placement of sand either on the beach or in the nearshore is likely to alter the beach profile and could affect surfing conditions. Sand deposition could cause waves to close-out over a long period of time (months) rather than peak, or result in a perpetual shorebreak at the beach rather than a nearshore bar for waves to break over. To determine any substantial change to surfing conditions a monitoring program would be instituted. Beginning 14 days prior to construction, surfing conditions at the site would be recorded by lifeguards between the hours of 8:00 a.m. and 9:00 a.m. at least three times per week. Observation forms would be completed to record date, wave height and direction, tide, wind, water temperature and clarity, number of surfers in the water, and qualitative observations of wave characteristics. Short interviews would be undertaken with local surfers at least weekly to obtain local perspective on the surf conditions. The same monitoring would occur for 14 days after construction was complete. This program would be of particular importance in the first few years of activity at each site to help determine how the various placement options and material types would be reflected in the nearshore environment.

### *Turbidity*

Turbidity would result from nearshore and surf zone placement, and may result from berm placement when material is placed in the intertidal zone. The duration of turbidity would relate to sediment grain size characteristics (particle settling rates) and placement volume, but would dissipate with distance and time after placement. Turbidity also may naturally result from storms, large waves, rip currents, and/or plankton blooms. Construction monitoring of water quality (i.e., potential turbidity impacts) would occur consistent with the Regional Water Quality Control Board (RWQCB) 401 Certification.

Turbidity monitoring requirements likely would vary depending on project volume, construction duration, proximity to sensitive resources, and schedule considerations. For example, project activities involving small volume placements as opportunities occur would produce only short term

(on the order of a few days) increases in turbidity. Larger volume projects could result in elevated turbidity over weeks to months. The potential significance of prolonged turbidity would depend on proximity to sensitive resources.

Turbidity plumes would be monitored during surf zone or berm placement by an observer from a high vantage point on land (e.g., bluff-top lifeguard headquarters location). The observer would map and photograph the extent of turbidity and note whether the plume extends to sensitive aquatic habitats (e.g., surface kelp canopies, lagoon mouths, intertidal surfgrass beds). In addition, environmental conditions would be noted such as wind, weather, rain events, wave activity, rip currents, and plankton blooms, etc.

If construction occurs between March 1 and September 15 at sites within one to two miles of California least tern nesting sites, additional monitoring may be required (see Endangered and /or Threatened Species section below).

No devices to reduce turbidity would be necessary with surf zone or berm placement. In addition, all proposed sand sources would be clean, beach-quality sand material and beneficial for the environment and the public. Testing prior to placement would verify that the material meets acceptable criteria in regard to chemical composition, trash, color, and percent sand.

#### *Grunion Monitoring*

California grunion (*Leuresthes tenuis*) is a California Department of Fish and Game (CDFG) species of concern. The grunion spawning season generally is from March 15 to September 15, although spawning may sometimes occur in February and later September. Grunion spawn during middle-of-the-night spring high tides. The eggs incubate in the sand and hatch in approximately two weeks when the next spring high tide occurs. Although eroded, portions of each of the four sites are characterized as a sandy beach and have the potential to provide suitable grunion spawning habitat. Overall, the project would improve grunion spawning by adding sand to the beach and enhancing the habitat. While grunion is not listed as threatened or endangered, efforts are recommended to minimize impacts to this managed fish species.

Monitoring would be conducted by a qualified biological monitor if berm or surf zone placement is scheduled between March 15 and September 15. In addition, the biological monitor would pre-coordinate with CDFG and National Marine Fisheries Service (NMFS) prior to construction to review appropriate impact avoidance measures to be implemented in the event grunion spawning is observed and their preferences regarding communication and submittal of monitoring results.

Monitoring would include at a minimum a pre-construction survey to determine potential suitability for grunion spawning based on upper intertidal substrate characteristics (> 5 inches sand depth, lack of extensive cobble or other hard substrate cover) and beach width (i.e., upper intertidal sand habitat not inundated during neap high tides). The habitat suitability survey would be scheduled two to three weeks prior to the scheduled placement activity. If the habitat is judged to be unsuitable for grunion spawning, construction could proceed without the need for additional monitoring up until the next predicted grunion run. If the construction schedule spans more than one predicted grunion run period, additional habitat suitability surveys would be conducted prior to each predicted grunion run since suitability may vary seasonally (e.g., habitat may become more suitable between spring and summer due to natural sand accretion). The predicted grunion run periods would be based on the grunion calendar produced by the CDFG.

If habitat is judged to be potentially suitable for grunion spawning, night-time grunion monitoring would be conducted by a qualified monitor during the predicted grunion run prior to construction and/or for each predicted grunion run spanned by the construction period when suitable habitat is present. Night-time grunion monitoring would span three nights during the predicted grunion run and would be initiated on the second night after a new or full moon and continue on the next two nights. The monitoring period would extend from one hour before the peak high tide to two hours after the peak high tide (i.e., at least three hour duration monitoring period). If no grunions are observed, no further action would be necessary and sand placement could occur according to plan. If grunion occur within the project area, their location would be mapped and number present would be estimated (e.g. by Walker Scale). An appropriate protective measure (e.g., avoid mapped grunion area, redirect all sand placement above the spring high tide line) would be implemented and the monitor would communicate monitoring results and action taken to the resource agencies in accordance with pre-coordination decisions.

#### *Endangered and/or Threatened Species*

The Western snowy plover (*Charadrius alexandrinus nivosus*) is a threatened species that is resident to Southern California. The plover nests typically in flat, open areas with sandy or saline substrates, and forages on invertebrates in the intertidal and/or in association with kelp wrack. Snowy plovers typically forage and nest in areas where human activity is low or absent. Their breeding and nesting season extends from March 1 to September 15. Receiver sites at Solana Beach, Coronado, and Imperial Beach are near known nesting sites located at San Elijo Lagoon, Silver Strand State Beach, and Tijuana River Estuary.

The California least tern (*Sterna antillarum browni*) and the California brown pelican (*Pelecanus occidentalis californianus*) may forage on fish outside the surf zone in the vicinity of the proposed project location. The California least tern is a seasonal migrant that breeds and nests in San Diego County between April and the end of August. Receiver sites at Solana Beach, Coronado, and Imperial Beach are near known nesting sites located just north of San Elijo Lagoon and around the mouth of the Tijuana River Estuary. Consultation with USFWS would be necessary and monitoring during construction may be required to avoid significant impacts if construction is scheduled between April 1 and September 15. Similar to the 2001 RBSP, monitoring may include observations of timing of nesting activity and the extent of turbidity plumes outside the surf zone where water transparency is reduced to less than three feet.

Monitoring after the 2001 RBSP indicated no significant impacts to nearshore reefs with sensitive indicators located offshore and adjacent to beach receiver sites with placement volumes ranging from 101,000 to 158,000 cy of sand, including sites offshore and downcoast of Solana Beach and downcoast of Moonlight Beach (AMEC 2005). The proposed project would involve sand placement volumes within or below the RBSP volume range for optimal sands, and substantially below prior volumes for less than optimum sands. The proposed project is designed to minimize the potential for adverse impacts; therefore, additional monitoring of nearshore reefs would not be necessary.

#### **Proposed Special Conditions**

None are proposed at this time.

For additional information please call Robert Smith of my staff at (760) 602-4831 or via e-mail at Robert.R.Smith@usace.army.mil. This public notice is issued by the Chief, Regulatory Division.



Source: Google Earth 2006



No Scale

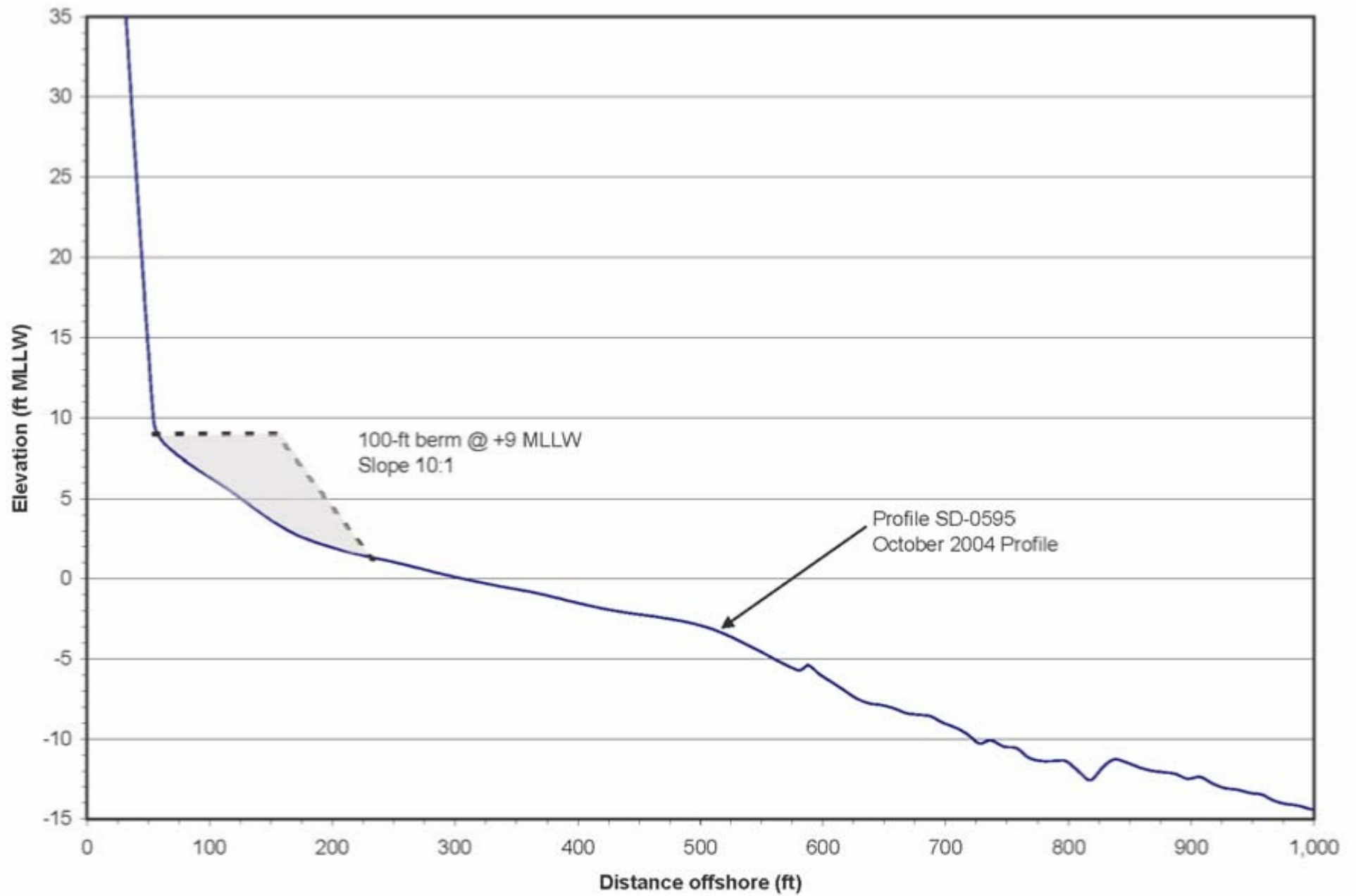


PROJECT LOCATION

**Figure 1**  
**Project Location**  
**City of Solana Beach**

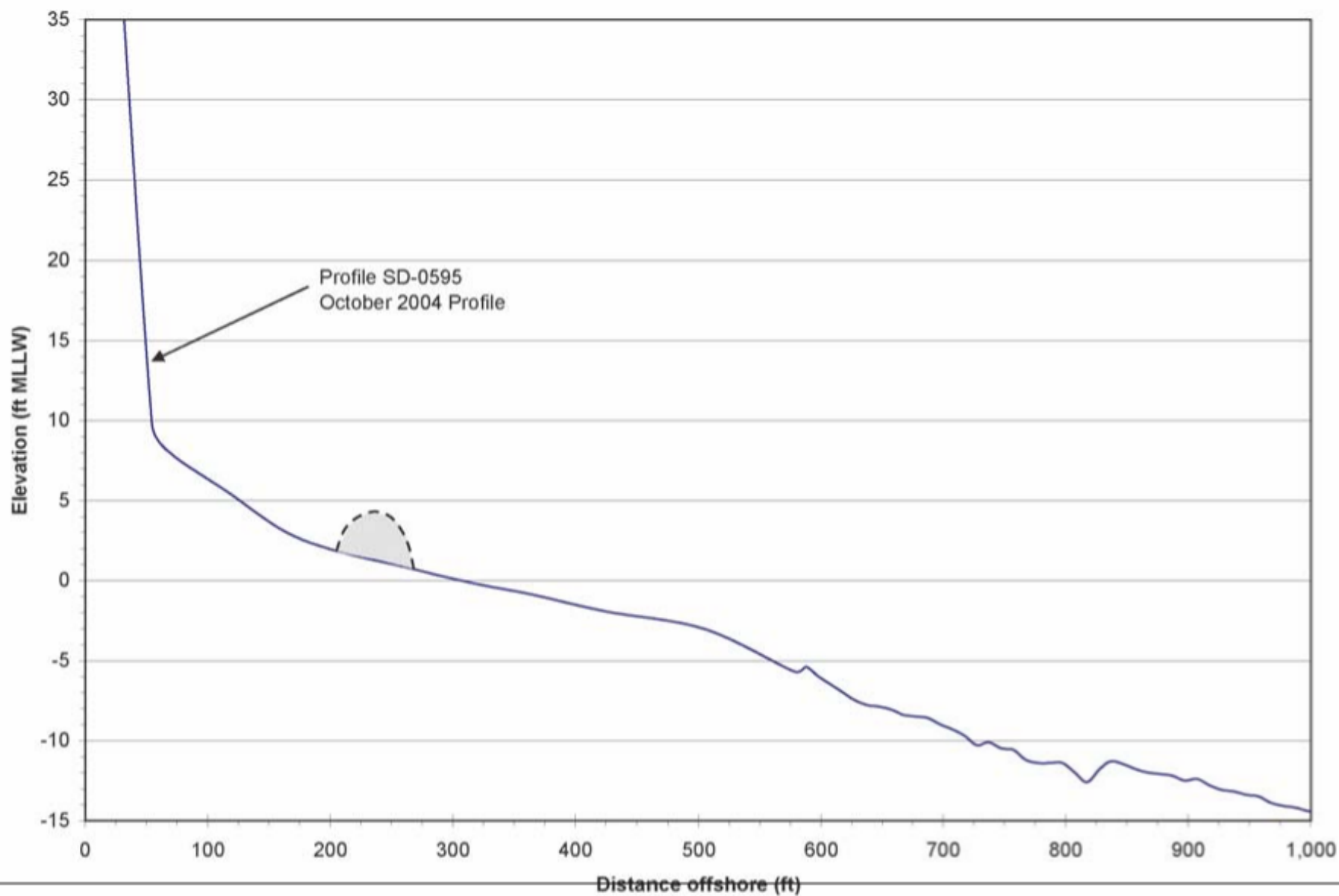






**Figure 3a**  
**Typical Beach Berm Placement Cross-Section**  
**City of Solana Beach Opportunistic**  
**Beach Nourishment Program**





**Figure 3b**  
**Typical Surf-zone Placement Cross-Section**  
**City of Solana Beach Opportunistic**  
**Beach Nourishment Program**



Source: Moffatt & Nichol, 2005 and Thomas Bros.



**Figure 4**  
**Haul Route**  
**City of Solana Beach Opportunistic Beach**  
**Nourishment Program**